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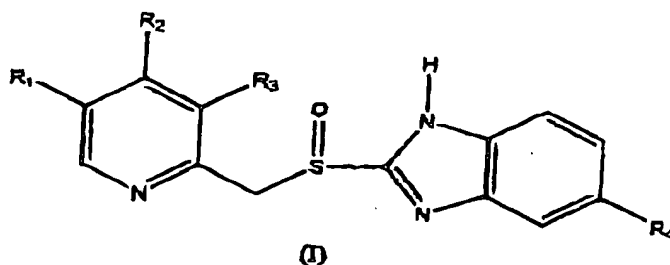
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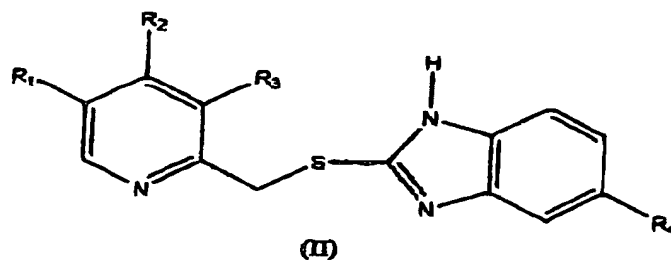
JC14 Rec'd PCT/PTO 15 JUL 2005

CLAIMS

1. A process for preparing a sulfinyl compound of formula (I), or a pharmaceutically acceptable salt, hydrate or solvate thereof,



which process comprises oxidation of a sulfide compound of formula (II)



wherein in both formulae (I) and (II) R₁ and R₃ are selected from the group consisting of hydrogen, methyl or C₁₋₄alkoxy, R₂ is selected from the group consisting of substituted or unsubstituted C₁₋₄alkoxy and R₄ is selected from the group consisting of hydrogen or substituted or unsubstituted C₁₋₄alkoxy;

characterised in that a solution of an alkali or alkali earth metal hydroxide is added to a suspension or solution of a sulfide compound of formula (II), and thereafter there is added thereto an oxidising agent comprising an aqueous alkali or alkali earth metal hypohalite solution, having a concentration in the range of 2 to 5%, such that a sulfide compound of formula (II) is oxidised to a sulfinyl compound of formula (I) in the presence of the alkali or alkali earth metal hydroxide, and optionally converting a

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sulfinyl compound of formula (I) to a pharmaceutically acceptable salt, hydrate or solvate thereof.

2. A process according to claim 1, wherein a compound of formula (II) is reacted with an aqueous hypohalite solution in the presence of a catalyst selected from the group consisting of pyridine, di-isopropyl ethyl amine and N,N-dimethyl amino pyridine.
3. A process according to claim 1 or 2, which comprises dissolving or suspending a compound of formula (II) in a solvent selected from the group consisting of water, lower alkyl alcohols, esters, ethers and chlorinated solvents, or a mixture of two or more of these solvents.
4. A process according to claim 3, wherein said solvent is selected from the group consisting of water, methanol, ethanol, isopropanol, di-isopropyl ether, dichloromethane, acetonitrile and ethyl acetate, or a mixture of two or more of these solvents.
5. A process according to any of claims 1 to 4, which is carried out at a temperature in the range of -30 to 50°C.
6. A process according to claim 5, which is carried out at a temperature in the range of 0 to 30°C.
7. A process according to any of claims 1 to 6, wherein said alkali metal or alkali earth metal hypohalite is selected from the group consisting of sodium hypochlorite, sodium hypobromite and calcium hypochlorite.
8. A process according to claim 7, wherein said aqueous hypohalite solution comprises sodium hypochlorite.
9. A process according to any of claims 1 to 8, wherein a pH in the range of 9 to 12 is obtained at least during said oxidation.

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10. A process according to any of claims 1 to 9, wherein in formula (I) R_1 represents methyl, R_2 represents trifluoroethoxy, R_3 represents hydrogen and R_4 represents hydrogen.
11. A process according to any of claims 1 to 9, wherein in formula (I) R_1 represents methyl, R_2 represents methoxy, R_3 represents methyl and R_4 represents methoxy.
12. A process according to any of claims 1 to 9, wherein in formula (I) R_1 represents methoxy, R_2 represents methoxy, R_3 represents hydrogen and R_4 represents difluoromethoxy.
13. A process according to any of claims 1 to 9, wherein in formula (I) R_1 represents methyl, R_2 represents $\text{OCH}_2\text{CH}_2\text{CH}_2\text{OMe}$, R_3 represents hydrogen and R_4 represents hydrogen.
14. Lansoprazole prepared according to claim 10, substantially free of oxidation contamination by products.
15. Omeprazole prepared according to claim 11, substantially free of oxidation contamination by products.
16. Pantoprazole prepared according to claim 12, substantially free of oxidation contamination by products.
17. Rabeprazole prepared according to claim 13, substantially free of oxidation contamination by products.
18. A pharmaceutical composition comprising a sulfinyl compound of formula (I)

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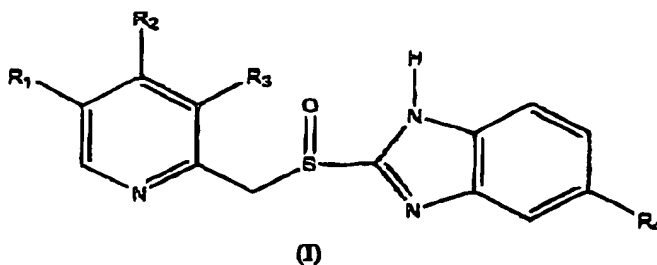
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wherein R_1 and R_3 are selected from the group consisting of hydrogen, methyl or C_{1-4} alkoxy, R_2 is selected from the group consisting of substituted or unsubstituted C_{1-4} alkoxy and R_4 is selected from the group consisting of hydrogen or substituted or unsubstituted C_{1-4} alkoxy;

prepared according to any of claims 1 to 13, together with a pharmaceutically acceptable carrier or excipient therefor.

19. A pharmaceutical composition comprising lansoprazole according to claim 14, together with a pharmaceutically acceptable carrier or excipient therefor.

20. A pharmaceutical composition comprising omeprazole according to claim 15, together with a pharmaceutically acceptable carrier or excipient therefor.

21. A pharmaceutical composition comprising pantoprazole according to claim 16, together with a pharmaceutically acceptable carrier or excipient therefor.

22. A pharmaceutical composition comprising rabeprazole according to claim 17, together with a pharmaceutically acceptable carrier or excipient therefor.

23. For use in therapy, lansoprazole according to claim 14.

24. For use in therapy, omeprazole according to claim 15.

25. For use in therapy, pantoprazole according to claim 16.

26. For use in therapy, rabeprazole according to claim 17.

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27. For use in the manufacture of a medicament for the treatment of gastric ulcers and related conditions, lansoprazole according to claim 14.
28. For use in the manufacture of a medicament for the treatment of gastric ulcers and related conditions, omeprazole according to claim 15.
29. For use in the manufacture of a medicament for the treatment of gastric ulcers and related conditions, pantoprazole according to claim 16.
30. For use in the manufacture of a medicament for the treatment of gastric ulcers and related conditions, rabeprazole according to claim 17.
31. A method of treating gastric ulcers and related conditions, which comprises administering to a patient in need of such treatment lansoprazole according to claim 14.
32. A method of treating gastric ulcers and related conditions, which comprises administering to a patient in need of such treatment omeprazole according to claim 15.
33. A method of treating gastric ulcers and related conditions, which comprises administering to a patient in need of such treatment pantoprazole according to claim 16.
34. A method of treating gastric ulcers and related conditions, which comprises administering to a patient in need of such treatment rabeprazole according to claim 17.

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